

9. (a) What is the basic difference between manipulators and ios member function in implementation? Give example. 10

(b) What is generic programming? How is it implemented in C++? A class template is known as a parameterized class. Comment. 10

Roll No. ....

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B. Tech. 4th Semester (CSE)

Examination – May, 2017

OBJECT ORIENTED PROGRAMMING USING C++

Paper : IT-202-F

Time : Three Hours ]

[ Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt five questions in all, selecting one question from each Section. Question No. 1 is compulsory. All questions carry equal marks.

1. Explain following with suitable examples :  $5 \times 4 = 20$

- (a) Preprocessor directives
- (b) Access modifiers
- (c) Container classes and Integrators
- (d) Virtual destructors
- (e) Stream manipulators

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### SECTION – A

2. (a) What is object oriented programming ? How is it different from the procedural oriented programming ? 12
- (b) What are the role of namespaces in object oriented programming ? Explain. 8
3. (a) Differentiate between structure in C++ and classes in C++. 7
- (b) Explain the concept of reusability in detail. 7
- (c) Write short note on encapsulation. 6

### SECTION – B

4. (a) What is friend function ? What are the merits and demerits of using friend function ? Explain with example. 10
- (b) What is constructor ? Why dynamic initialization of objects is needed ? Illustrate with the help of example. 10
5. (a) What is the need of declaring member of a class static ? Write a program that illustrates the use of static function. 10
- (b) Explain dynamic initialization with new ( ) and delete ( ) functions. 10

### SECTION – C

6. (a) What do you mean by operator over loading ? What are various restrictions in operator over loading ? WAP in C++ to over load binary operator using member function and friend function. 12
- (b) What is the significance of making constructor in a derived class ? Explain with example. 8
7. (a) Write short note on the following :  $5 \times 2 = 10$
- (i) Abstract classes and Concrete Classes.
- (ii) Function overriding.
- (b) What is inheritance ? Explain various forms of inheritance with example. 10

### SECTION – D

8. (a) What is exception handling ? What are the advantages of using exception handling mechanism in a program ? 10
- (b) What is the basic difference between opening a file using a constructor function and open ( ) function. When one method is preferred over other ? 10